



U.S. Department of Energy Energy Efficiency and Renewable Energy

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INDUSTRIAL TECHNOLOGIES PROGRAM

Plant Energy Profiler (PEP) Tool for the Chemicals Industry

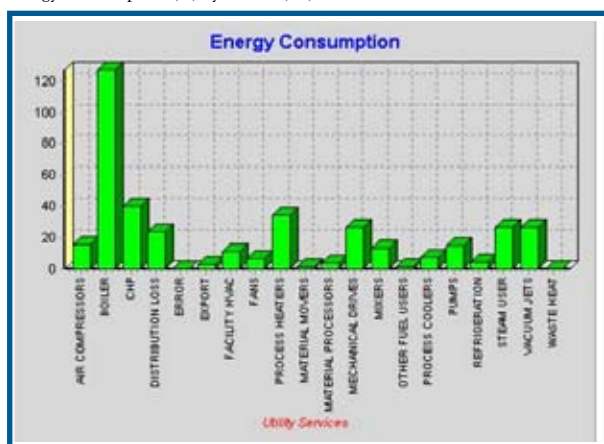
- *Do you know which systems in your plants consume the most energy?*
- *How does your plant's energy consumption compare to similar plants in your industry?*
- *What energy management tools and techniques are available to help you reduce your plant's energy use and lower production costs?*

The U.S. Department of Energy's new Plant Energy Profiler (PEP) is available at no charge to help you answer these questions. The PEP is a software tool designed to help plants assess their plant-wide energy consumption. The PEP tool not only profiles energy use but also enables chemical plants to identify energy savings opportunities with reasonable payback times.

With the PEP tool users can compare their plant-wide operating practices against recognized chemical best practices; generate maps for energy flows throughout the plant; identify energy-intensive equipment and systems; and quantify and pinpoint potential energy savings throughout the plant. The PEP tool makes recommendations for the use of available

energy management tools, such as those that target pump and steam system optimization, to help reduce energy consumption. The tool also contains a library of energy efficiency and management resources to help chemical plants improve their energy management program.

Energy Consumption (%) by Service (All)



Energy Savings (%) by Service (All)

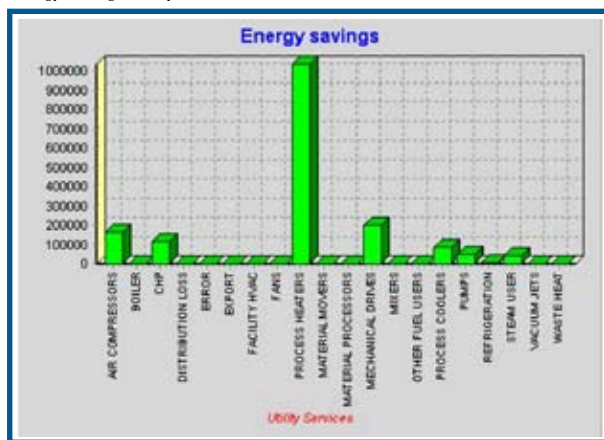


Figure 1: Sample PEP Reports showing energy consumption and savings by system



Plant-wide energy assessments can generate savings opportunities from 10-15% with reasonable payback times, even for plants that already have an energy management program.

To download the PEP tool and other free software tools or participate in an on-line tool forum, visit us at:

www.eere.energy.gov/industry/bestpractices/software.html

To learn more, contact the EERE Information Center (1-877-337-3463) or visit the BestPractices web site at www.eere.energy.gov/industry/bestpractices

Tool Description

The PEP Tool provides plant energy information in a clear graphical manner that can be very useful to managers. Outputs from the PEP Tool include:

- Energy Summary Reports
- Energy Maps (Electricity, Fuel, Steam)
- Energy Distribution Graphs
- Potential Savings Charts
- System Assessments
 - Key system performance parameters
 - Energy savings potential

The PEP Tool uses a qualitative assessment targeting specific systems (e.g., pumps, compressors, steam, power generators) to help identify the energy savings potential (high, medium, low) associated with individual equipment. Users are then directed to other tools and energy-saving ideas compatible with their specific plant characteristics. The PEP Tool also allows for internal energy use benchmarking and provides an individualized scorecard of plant energy performance.

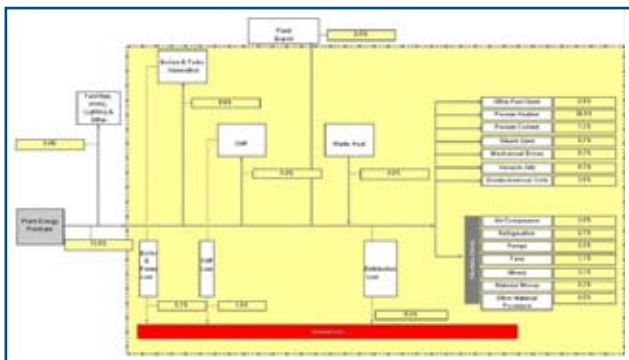


Figure 2: Example of an Integrated Energy Map

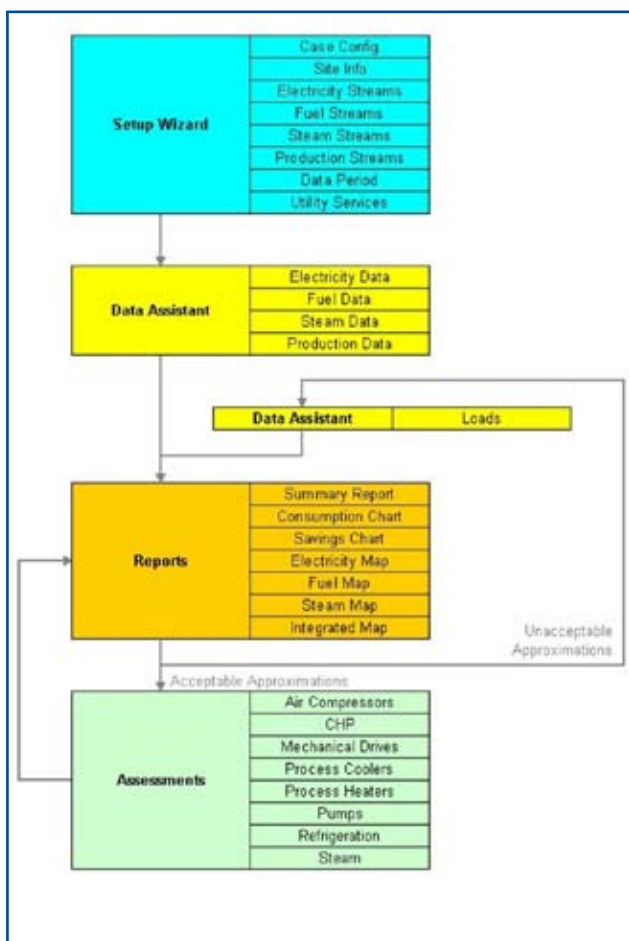


Figure 3: Schematic of PEP Tool sequence. User inputs plant data into the setup wizard and the data assistant and runs system assessments to generate energy and savings potential reports.

The PEP Tool was developed for the U.S. Department of Energy, under contract with the American Institute of Chemical Engineers, by Veritech, Inc.

Project participants also include: BASF Corp., Celanese Chemicals, The Dow Chemical Company, DuPont Company, Electric Power Research Institute, Millennium Chemicals, ICI/National Starch & Chemical Co., Reilly Industries, Rohm and Haas Company.

A Strong Energy Portfolio for a Strong America

Energy efficiency and clean, renewable energy will mean a stronger economy, a cleaner environment, and greater energy independence for America. Working with a wide array of state, community, industry, and university partners, the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy invests in a diverse portfolio of energy technologies.

For more information contact:
EERE Information Center
1-877-EERE-INF (1-877-337-3463)
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